Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) An isolated antibody or fragment thereof comprising~~: (a)~~ an amino acid sequence that is at least ~~80%~~85% identical to ~~a~~ the amino acid sequence of ~~VH domain of any one of the scFvs of SEQ ID NOS:48-56~~amino acid residues 1-117 of SEQ ID NO:53 ~~; (b)~~and an amino acid sequence that is at least ~~80%~~85% identical to ~~a VL domain of any one of the scFvs of~~ the amino acid sequence of amino acids residues 134-244 of SEQ ID NO:53 ~~SEQ ID NOS:48-56; or (c) both (a) and (b);~~ wherein said antibody or fragment thereof specifically binds protective antigen (PA).

2-4. (Cancelled)

5. (Original) The antibody or fragment thereof of claim 1, wherein said antibody or fragment thereof inhibits binding of PA to anthrax receptor (ATR).

6. (Currently Amended) The antibody or fragment thereof of claim 1, wherein said antibody or fragment thereof inhibits an activity selected from the group consisting of:

(a) binding of PA to capillary ~~morphogenesis~~ morphogenesis protein 2 (CMG2);

(b) protease cleavage of PA into PA20 and PA63;

(c) heptamerization of PA63;

(d) PA63 binding to edema factor (EF);

(e) PA63 binding to lethal factor (LF);

(f) PA-mediated translocation of EF across a cell membrane; and

(g) PA-mediated translocation of LF across a cell membrane.

7. (Original) The antibody or fragment thereof of claim 1 wherein said PA is purified from a bacterial cell culture, and wherein said PA is encoded by a

polynucleotide encoding amino acids 1 to 764 of SEQ ID NO:2 operably associated with a regulatory sequence that controls expression of said polynucleotide.

8. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof is a monoclonal antibody.

9. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof is a human antibody.

10. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof is selected from the group consisting of:

(a) a whole immunoglobulin molecule;
(b) an scFv;
(c) a chimeric antibody;
(d) a Fab fragment;
(e) an F(ab')2; and
(f) a disulfide linked Fv.

11. (Original) The antibody or fragment thereof of claim 1 which comprises a heavy chain immunoglobulin constant domain selected from the group consisting of:

(a) a human IgM constant domain;
(b) a human IgG1 constant domain;
(c) a human IgG2 constant domain;
(d) a human IgG3 constant domain;
(e) a human IgG4 constant domain; and
(f) a human IgA constant domain.

12. (Original) The antibody or fragment thereof of claim 1 which comprises a light chain immunoglobulin constant domain selected from the group consisting of:

(a) a human Ig kappa constant domain; and
(b) a human Ig lambda constant domain.

13. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof has a dissociation constant (K_D) of less than or equal to 10^{-9} M.

14. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof has a K_D less than or equal to 10^{-10} M.

15. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof has a K_D between less than or equal to 10^{-11} M.

16. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof has a K_D between less than or equal to 10^{-12} M.

17. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof is conjugated to a detectable label.

18. (Original) The antibody or fragment thereof of any one of claim 1 wherein the antibody or fragment thereof is attached to a solid support.

19. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof specifically binds PA in a Western blot.

20. (Original) The antibody or fragment thereof of claim 1 wherein the antibody or fragment thereof specifically binds PA in an ELISA.

21. (Original) An isolated cell that produces the antibody or fragment thereof of claim 1.

22. (Original) A method of treatment of anthrax infection or anthrax toxin poisoning comprising administering to an animal the antibody or fragment thereof of claim 1.

23. (Original) The method of claim 22 wherein the animal is a human.

24. (Original) The method of claim 22 wherein the treatment is prophylactic.

25. (Original) The method of claim 22 wherein the antibody or fragment thereof is administered in combination with a second antibody or fragment thereof that specifically binds PA.

26. (Original) The method of claim 22 wherein the antibody or fragment thereof is administered in combination with an anti-anthrax agent.

27. (Original) The method of claim 26 wherein the anti-anthrax agent is selected from the group consisting of:

(a) a soluble form of the ATR receptor;

(b) a soluble form of the CMG2 receptor;

(c) an anti-ATR antibody;

(d) an anti-EF antibody;

(e) an anti-LF antibody;

(f) an anthrax vaccine; and

(g) a polyvalent form of the P1 peptide.

28. (Original) The method of claim 22 wherein the antibody or fragment thereof is administered in combination with an antibiotic.

29. (Original) The method of claim 28 wherein the antibiotic is ciprofloxacin hydrochloride.

30. (Original) The method of claim 28 wherein the antibiotic is doxycycline.

31. (Original) The method of claim 28 wherein the antibiotic is selected from the group consisting of:

(a) penicillin G procaine;

(b) amoxicillan;

(c) ofloxacin; and

(d) levofloxacin.

32. (Original) The method of claim 22 wherein the antibody or fragment thereof is administered in combination with a member selected from the group consisting of:

(a) a protease inhibitor;

(b) an anti-TNF-alpha antibody; and

(c) an anti-IL-1beta antibody.

33. (Original) A kit comprising the antibody or fragment thereof of claim 1 and a means for administering said antibody to an animal.

34. (Original) The kit of claim 33 wherein the animal is a human.

35. (Currently Amended) An isolated antibody or fragment thereof comprising~~: (a)~~ the amino acid sequence of ~~a VH domain of any one of the scFvs of SEQ ID NOS:48-56~~amino acid residues 1-117 of SEQ ID NO:53 and ~~; (b)~~ the amino acid sequence of ~~the VL domain of any one of the scFvs of SEQ ID NOS:48-56~~amino acid residues 134-244 of SEQ ID NO:53~~; or (c) both (a) and (b);~~ wherein said antibody or fragment thereof specifically binds PA.

36. (Currently Amended) The antibody or fragment thereof of claim 35 that comprises ~~(a)~~amino acid residues 1-244 of SEQ ID NO:53.

37. (Currently Amended) The antibody or fragment thereof of claim 35 that ~~comprises (b)~~consists of amino acid residues 1-244 of SEQ ID NO:53.

38-40. (Cancelled)

41. (Original) The antibody or fragment thereof of claim 35 wherein said PA is purified from a bacterial cell culture, and wherein said PA is encoded by a polynucleotide encoding amino acids 1 to 764 of SEQ ID NO:2 operably associated with a regulatory sequence that controls expression of said polynucleotide.

42. (Original) The antibody or fragment thereof of claim 35 wherein the antibody or fragment thereof is a monoclonal antibody.

43. (Original) The antibody or fragment thereof of claim 35 wherein the antibody or fragment thereof is a human antibody.

44. (Original) The antibody or fragment thereof of claim 35 wherein the antibody or fragment thereof is selected from the group consisting of:

(a) a whole immunoglobulin molecule;

(b) an scFv;

(c) a chimeric antibody;

(d) a Fab fragment;

(e) an F(ab')2; and

(f) a disulfide linked Fv.

45. (Original) The antibody or fragment thereof of claim 35 which comprises a heavy chain immunoglobulin constant domain selected from the group consisting of:

(a) a human IgM constant domain;

(b) a human IgG1 constant domain;

(c) a human IgG2 constant domain;

(d) a human IgG3 constant domain;

(e) a human IgG4 constant domain; and

(f) a human IgA constant domain.

46. (Original) The antibody or fragment thereof of claim 35 which comprises a light chain immunoglobulin constant domain selected from the group consisting of:

(a) a human Ig kappa constant domain; and

(b) a human Ig lambda constant domain.

47-50. (Cancelled)

51. (Original) The antibody or fragment thereof of claim 35 wherein the antibody or fragment thereof is conjugated to a detectable label.

52. (Original) The antibody or fragment thereof of any one of claim 35 wherein the antibody or fragment thereof is attached to a solid support.

53-54. (Cancelled)

55. (Original) An isolated cell that produces the antibody or fragment thereof of claim 35.

56. (Original) A method of treatment of anthrax infection or anthrax toxin poisoning comprising administering to an animal the antibody or fragment thereof of claim 35.

57. (Original) The method of claim 56 wherein the animal is a human.

58. (Original) The method of claim 56 wherein the treatment is prophylactic.

59. (Original) The method of claim 56 wherein the antibody or fragment thereof is administered in combination with a second antibody or fragment thereof that specifically binds PA.

60. (Original) The method of claim 56 wherein the antibody or fragment thereof is administered in combination with an anti-anthrax agent.

61. (Original) The method of claim 60 wherein the anti-anthrax agent is selected from the group consisting of:

(a) a soluble form of the ATR receptor;

(b) a soluble form of the CMG2 receptor;

(c) an anti-ATR antibody;

(d) an anti-EF antibody;

(e) an anti-LF antibody;

(f) an anthrax vaccine; and

(g) a polyvalent form of the P1 peptide.

62. (Original) The method of claim 56 wherein the antibody or fragment thereof is administered in combination with an antibiotic.

63. (Original) The method of claim 62 wherein the antibiotic is ciprofloxacin hydrochloride.

64. (Original) The method of claim 62 wherein the antibiotic is doxycycline.

65. (Original) The method of claim 62 wherein the antibiotic is selected from the group consisting of:

(a) penicillin G procaine;

(b) amoxicillan;

(c) ofloxacin; and

(d) levofloxacin.

66. (Original) The method of claim 56 wherein the antibody or fragment thereof is administered in combination with a member selected from the group consisting of:

(a) a protease inhibitor;

(b) an anti-TNF-alpha antibody; and

(c) an anti-IL-1beta antibody.

67. (Currently Amended) A kit comprising the antibody or fragment thereof of claim 35 ~~and a means for administering said antibody to an animal~~.

68. (Cancelled)

69. (Original) The cell line contained in ATCC Deposit Number PTA-4796.

70. (Original) The antibody produced by the cell line of claim 69.

71-78 (Cancelled)

79. (Currently Amended) The method of claim ~~76~~ 56 wherein the antibody or fragment thereof is administered intravenously (IV).

80. (Currently Amended) The method of claim ~~76~~ 56 wherein the antibody or fragment thereof is administered sub-cutaneously (SC).

81. (Currently Amended) The method of claim ~~76~~ 56 wherein the antibody or fragment thereof is administered intramuscularly (IM).

82. (Currently Amended) The method of claim ~~76~~ 56 for treating anthrax infection or anthrax toxin poisoning wherein the antibody or fragment thereof is

administered in a quantity in the range of 1 to 100 milligrams per kilogram of the animal's body weight.

83. (Onginal) The method of claim 82 wherein the antibody or fragment thereof is administered in a quantity in the range of 1 to 10 milligrams per kilogram of the animal's body weight.

84. (Currently Amended) The method of claim ~~76~~ 56 for preventing anthrax infection or anthrax toxin poisoning wherein the antibody or fragment thereof is administered in a quantity in the range of 0.1 to 20 milligrams per kilogram of the animal's body weight.

85. (Original) The method of claim 84 wherein the antibody or fragment thereof is administered in a quantity in the range of 1 to 10 milligrams per kilogram of the animal's body weight.

86. (Currently Amended) The method of claim ~~76~~ 56 that prevents or reduces bacteremia associated with anthrax infection.

87-96. (Cancelled)

97. (New) The method of claim 22 wherein the antibody or fragment thereof is administered intravenously (IV).

98. (New) The method of claim 22 wherein the antibody or fragment thereof is administered sub-cutaneously (SC).

99. (New) The method of claim 22 wherein the antibody or fragment thereof is administered intramuscularly (IM).

100. (New) The method of claim 22 for treating anthrax infection or anthrax toxin poisoning wherein the antibody or fragment thereof is administered in a quantity in the range of 1 to 100 milligrams per kilogram of the animal's body weight.

101. (New) The method of claim 100 wherein the antibody or fragment thereof is administered in a quantity in the range of 1 to 10 milligrams per kilogram of the animal's body weight.

102. (New) The method of claim 22 for preventing anthrax infection or anthrax toxin poisoning wherein the antibody or fragment thereof is administered in a quantity in the range of 0.1 to 20 milligrams per kilogram of the animal's body weight.

103. (New) The method of claim 102 wherein the antibody or fragment thereof is administered in a quantity in the range of 1 to 10 milligrams per kilogram of the animal's body weight.

104. (New) The method of claim 22 that prevents or reduces bacteremia associated with anthrax infection.